



## Professional Qualification in COMPUTING AND INFORMATION SYSTEMS Level 4 Diploma

### UNIT 4 – INFORMATION PRESENTATION AND ANALYSIS

#### Question 1

- (a) **Calculate** the mean, median and mode of the following data set. Show your calculations. (5 marks)

2.5 kg, 3.4 kg, 2.9 kg, 4.1 kg, 3.5 kg, 1.1 kg, 3.5 kg

- (b) **Calculate** the cumulative frequency of each row in the table below. (5 marks)

| Weight (kg)    | Frequency |
|----------------|-----------|
| $0 < w \leq 1$ | 4         |
| $1 < w \leq 2$ | 10        |
| $2 < w \leq 3$ | 11        |
| $3 < w \leq 4$ | 12        |
| $4 < w \leq 5$ | 3         |

- (c) Using your calculations from Question 1b, **draw** a cumulative frequency diagram and show the median, the lower quartile, and the upper quartile. (10 marks)

#### Question 2

- (a) **Illustrate** how probability theory is used in commerce to improve the overall performance of a business. (10 marks)
- (b) **Describe** the main types of probability distributions. (10 marks)

#### Question 3

Compare the relative merits of TWO different graphical methods of presenting data. Use examples and/or diagrams to support your answer. (20 marks)

#### Question 4

- (a) **Describe** the differences in interpretation between mean, median and mode averages. (10 marks)

- (b) **Discuss** the validity and accuracy of research instruments and their implications for statistical analysis. (10 marks)

#### Question 5

- (a) **Discuss** the merits of TWO different methods of empirical research. (10 marks)
- (b) **Discuss TWO** design considerations for implementing different research practices. (10 marks)